Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of Claims:

1. (CURRENTLY AMENDED) An apparatus for placing a proximal portion of a penetrating member in a target area after the apparatus is positioned in proximity to an entry point of an object containing the target area, said apparatus comprising:

a first arm being configured and arranged to support the penetrating member; and

a first drive mechanism being coupled to the first arm and being configured and arranged to translate the first arm from an initial position to any of a number of other positions spaced from the initial position, thereby also translating the penetrating member proximal portion in a direction towards the target area, wherein one of the any of a number of other positions corresponds to a condition where the penetrating member proximal portion is disposed in the target area.

2. (CURRENTLY AMENDED) The apparatus of claim 1, wherein the first arm is further configured and arranged to rotatably support the penetrating member; and wherein the apparatus further comprises:

a second drive mechanism being coupled to the penetrating member and being configured and arranged so as to cause the penetrating member to rotate about a long axis ~~thereof~~ of the penetrating member.

3. (CURRENTLY AMENDED) The apparatus of claim 2 wherein the first and second drive mechanisms are configured and arranged so that translating of the first arm ~~member~~ and rotating of the penetrating member are separately and independently controlled.

4. (CURRENTLY AMENDED) The apparatus of claim 2, wherein the first and second drive mechanisms are configured and arranged so that translating of the first arm ~~member~~ and rotating of the penetrating member are performed at the same time.

5. (CURRENTLY AMENDED) The apparatus of claim 2, wherein the first and second drive mechanisms are configured and arranged so as to do one of translating of the first arm ~~member~~ or rotating of the penetrating member.

6. (ORIGINAL) The apparatus of claim 2, wherein the second drive mechanisms is configured and arranged so as to selectively rotate the penetrating member at one of a number of different rotational speeds.

7. (ORIGINAL) The apparatus of claim 1 further comprising a second arm coupled to the first drive mechanism so that the first arm translates towards the second arm.

8. (ORIGINAL) The apparatus of claim 7, in which the second arm further includes a guide mechanism in which the penetrating member is moveably received.

9. (ORIGINAL) The apparatus of claim 8, wherein the guide mechanism is selectively configurable so as to be capable of guiding differently sized penetrating members.

10. (ORIGINAL) The apparatus of claim 1, wherein the first arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the first arm.

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11. (ORIGINAL) The apparatus of claim 7, wherein the second arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the second arm.

12. (ORIGINAL) The apparatus of claim 11 wherein the detachable portion includes at least a portion of a guide mechanism in which the penetrating member is moveably received.

13. (ORIGINAL) The apparatus of claim 1, wherein the first drive mechanisms includes a slipless transmission assembly.

14. (ORIGINAL) The apparatus of claim 1, wherein the first drive mechanism comprises a screw mechanically coupled to the first arm such that rotation of the screw causes the first arm to translate from the first position.

15. (ORIGINAL) The apparatus of claim 14, wherein the first drive mechanism further includes a bi-directional motor coupled to the screw and wherein the first arm can be translated in one of two direction responsive to the direction of rotation of the motor.

16. (RE-WRITTEN IN INDEPENDENT FORM) ~~The apparatus of claim 1,~~ An apparatus for placing a proximal portion of a penetrating member in a target area comprising:

a first arm being configured and arranged to support the penetrating member;

a first drive mechanism being coupled to the first arm and being configured and arranged to translate the first arm from an initial position to any of a number of other positions spaced from the initial position, wherein one of the any of a number of other positions corresponds to a condition where the penetrating member proximal portion is disposed in the target area; and

wherein the first drive mechanism includes a linear guide that is configured and arranged so as to restrain motion of the first arm other than in the direction the first arm translates.

17. (ORIGINAL) The apparatus of claim 16, wherein the linear guide comprises:

a rod member;

a track;

a sliding member a portion of which is configured to slidably engaged the track and which is secured to the first arm; and

a coupling mechanism secured to the sliding member and slidably coupling the rod member to the sliding member.

18. (ORIGINAL) The apparatus of claim 2, further comprising:

a controller that is configured and arranged to selectively and separately control the first and second drive mechanisms.

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19. (ORIGINAL) The apparatus of claim 18, wherein the controller is further configured so as to include a plurality of pre-established penetrating member driving protocols for driving the penetrating member end portion from an initial position to the target area.

20. (CURRENTLY AMENDED) The apparatus of claim 18, wherein the controller is configured and arranged so that translating of the first arm ~~member~~ and rotating of the penetrating member are performed at the same time.

21. (CURRENTLY AMENDED) The apparatus of claim 18, wherein the controller is configured and arranged so as to do one of translating of the first arm ~~member~~ or rotating of the penetrating member.

22. (ORIGINAL) The apparatus of claim 18, wherein the controller is configured and arranged so as to selectively rotate the penetrating member at one of a number of different rotational speeds.

23. (ORIGINAL) The apparatus of claim 18, wherein the controller is configured and arranged so as to successively translate the penetrating member in a back and forth manner.

24. (ORIGINAL) The apparatus of claim 18 further comprising a sensor and wherein the controller is configured and arranged to alter the penetrating member driving protocol based on signals from the sensor.

25. (ORIGINAL) The apparatus of claim 1, wherein the penetrating member is configured so as to be capable of performing any one of injecting therapeutic agents into the target area, locating an imaging device in the target area, biopsy including tissue biopsy, and locating a medical device in the target area to be used to perform an medical procedure.

26. (ORIGINAL) The apparatus of claim 2, wherein the second drive mechanism comprises a gear member secured to the penetrating member and being mechanically coupled to a motor such that operation of the motor causes the penetrating member to rotate about the long axis.

27. (ORIGINAL) The apparatus of claim 26, wherein the second drive mechanism further includes a drive gear that is mechanically coupled to the motor and the penetrating member gear member so that the penetrating member gear member rotates responsive to rotation of the drive gear.

28. (ORIGINAL) The apparatus of claim 27, wherein the motor is a bi-directional motor and wherein the penetrating member can be rotated in one of a clockwise and counter clockwise direction responsive to the direction of rotation of the motor.

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29. (CURRENTLY AMENDED) An apparatus for placing a proximal portion of a penetrating member in a target area after the apparatus is positioned in proximity to an entry point of an object containing the target area, said apparatus comprising:

a first arm being configured and arranged to rotably support the penetrating member;

a first drive mechanism being coupled to the first arm and being configured and arranged to translate the first arm from an initial position to any of a number of other positions spaced from the initial position, thereby also translating the penetrating member proximal portion in a direction towards the target area, wherein one of the any of a number of other positions corresponds to a condition where the penetrating member proximal portion is disposed in the target area;

a second arm coupled to the first drive mechanism so that the first arm translates towards the second arm; and

a second drive mechanism being coupled to the penetrating member and being configured and arranged so as to cause the penetrating member to rotate about a long axis ~~thereof of the penetrating member~~.

30. (CURRENTLY AMENDED) The apparatus of claim 29 wherein the first and second drive mechanisms are configured and arranged so that translating of the first ~~arm member~~ and rotating of the penetrating member are separately and independently controlled.

31. (CURRENTLY AMENDED) The apparatus of claim 29, wherein the first and second drive mechanisms are configured and arranged so that translating of the first ~~arm member~~ and rotating of the penetrating member are performed at the same time.

32. (CURRENTLY AMENDED) The apparatus of claim 29, wherein the first and second drive mechanisms are configured and arranged so as to do one of translating of the first ~~arm member~~ or rotating of the penetrating member.

33. (ORIGINAL) The apparatus of claim 29, wherein the second drive mechanisms is configured and arranged so as to selectively rotate the penetrating member at one of a number of different rotational speeds.

34. (ORIGINAL) The apparatus of claim 29, in which the second arm further includes a guide mechanism in which the penetrating member is moveably received.

35. (ORIGINAL) The apparatus of claim 29, wherein:

the first arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the first arm; and

Q4 the second arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the second arm.

36. (ORIGINAL) The apparatus of claim 29, wherein the first drive mechanism comprises:

a screw mechanically coupled to the first arm such that rotation of the screw causes the first arm to translate from the first position;

a bi-directional motor coupled to the screw; and

wherein the first arm is translated in one of two direction responsive to the direction of rotation of the motor.

37. (ORIGINAL) The apparatus of claim 36, wherein the first drive mechanism includes a linear guide that is configured and arranged so as to restrain motion of the first arm other than in the direction the first arm translates.

38. (ORIGINAL) The apparatus of claim 37, wherein the linear guide comprises:

a rod member;

a track;

a sliding member a portion of which is configured to slidably engaged the track and which is secured to the first arm; and

a coupling mechanism secured to the sliding member and slidably coupling the rod member to the sliding member.

39. (ORIGINAL) The apparatus of claim 29, further comprising a controller that is configured and arranged to selectively and separately control the first and second drive mechanisms.

40. (ORIGINAL) The apparatus of claim 29, wherein the second drive mechanism comprises:

a gear member secured to the penetrating member; and

a drive gear that is mechanically coupled to the motor and the penetrating member gear member so that the penetrating member gear member rotates responsive to rotation of the motor.

41. (ORIGINAL) The apparatus of claim 40, wherein the motor is a bi-directional motor and wherein the penetrating member can be rotated in one of a clockwise and counter clockwise direction responsive to the direction of rotation of the motor.

42. (CURRENTLY AMENDED) An apparatus for driving a subcutaneous needle so a proximal portion thereof is located in a target area of a body after the apparatus is positioned in proximity to an entry point of the body, said apparatus comprising:

a first arm being configured and arranged to rotably support the needle;

a first drive mechanism being coupled to the first arm and being configured and arranged to translate the first arm from an initial position to any of a number of other positions spaced from the initial position, , thereby also translating the penetrating member proximal portion in a direction towards the target area, wherein one of the any of a number of other positions corresponds to a condition where the needle proximal portion is disposed in the target area;

a second arm coupled to the first drive mechanism so that the first arm translates towards the second arm;

a second drive mechanism being coupled to the needle and being configured and arranged so as to cause the ~~penetrating member~~ needle to rotate about a long axis ~~thereof~~ of the needle; and

wherein the second arm further includes a guide mechanism in which the needle is moveably received.

43. (ORIGINAL) The apparatus of claim 42, wherein:

the first arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the first arm; and

the second arm includes a detachable portion and a latching mechanism configured so as to releasably secure the detachable portion to a rest of the second arm.

44. (ORIGINAL) The apparatus of claim 42, wherein the first drive mechanism comprises:

a screw mechanically coupled to the first arm such that rotation of the screw causes the first arm to translate from the first position;

a bi-directional motor coupled to the screw;

wherein the first arm is translated in one of two direction responsive to the direction of rotation of the motor; and

a linear guide that is configured and arranged so as to restrain motion of the first arm other than in the direction the first arm translates, wherein the linear guide includes:

a rod member,

a track,

a sliding member a portion of which is configured to slidably engaged the track and which is secured to the first arm, and

a coupling mechanism secured to the sliding member and slidably coupling the rod member to the sliding member.

45. (ORIGINAL) The apparatus of claim 42, wherein the second drive mechanism comprises:

a gear member secured to the penetrating member;

a drive gear that is mechanically coupled to the motor and the penetrating member gear member so that the penetrating member gear member rotates responsive to rotation of the motor;

wherein the motor is a bi-directional motor; and

wherein the penetrating member can be rotated in one of a clockwise and counter clockwise direction responsive to the direction of rotation of the motor.

46. (CURRENTLY AMENDED) A method for localizing a proximal portion of a penetrating member in a target area of a body comprising the steps of:

supporting the penetrating member from a first arm; ~~and~~

positioning the first arm with respect to the body so a long axis of the penetrating member passes through the target area; and

translating the first arm from an initial position to any of a number of other positions spaced from the initial, thereby also translating the penetrating member proximal portion in a direction towards the target area, wherein one of the any of a number of other positions corresponds to a condition where the penetrating member proximal portion is disposed in the target area; and

47. (CURRENTLY AMENDED) The method of claim 46 further comprising rotating the penetrating member about ~~a~~ the long axis thereof.

48. (CURRENTLY ADDED) The method of claim 47, wherein said steps of rotating said penetrating member and translating the first arm are concurrently perfomed as the penetrating member proximal portion is translated through a surface of the body.

49. (CURRENTLY ADDED) The apparatus of claim 1, wherein the first arm is operably coupled to an apparatus that positions the first arm with rescpect to the entry point of the object containing the target area so a long axis of the penetrating member passes through the target area.

50. (CURRENTLY ADDED) The apparatus of claim 29, wherein the first arm is operably coupled to an apparatus that positions the first arm with respect to the entry point of the object containing the target area so a long axis of the penetrating member passes through the target area.

51. (CURRENTLY ADDED) The apparatus of claim 42, wherein the first arm is operably coupled to an apparatus that positions the first arm with respect to the entry point of the object containing the target area so a long axis of the needle passes through the target area.

52. (CURRENTLY ADDED) The apparatus of claim 1, wherein the first drive mechansism is configured and arranged to translate the first arm so that the penertrating member proximal portion moves along a translation axis that passes through the target area.

53. (CURRENTLY ADDED) The apparatus of claim 29, wherein the first drive mechansism is configured and arranged to translate the first arm so that the penertrating member proximal portion moves along a translation axis that passes through the target area.

54. (CURRENTLY ADDED) The apparatus of claim 42, wherein the first drive mechansism is configured and arranged to translate the first arm so that the needle moves along a translation axis that passes through the target area.

55. (CURRENTLY ADDED) An apparatus for placing a proximal portion of a penetrating member in a target area with an object in combination with a system that positions the apparatus with respect to an entry point of the object so a long axis of the penetrating member is positioned so as to pass through the target area, said apparatus comprising:

a first arm being configured and arranged to support the penetrating member; and

a first drive mechanism being coupled to the first arm and being configured and arranged to translate the first arm from an initial position to any of a number of other positions spaced from the initial position, thereby also translating the penetrating member proximal portion in a direction towards the target area, wherein one of the any of a number of other positions corresponds to a condition where the penetrating member proximal portion is disposed in the target area.